

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1-17. (Canceled)

18. (New) A method of preparing a proliferation-regulated recombinant adenoviral vector effectively, comprising the steps of:

preparing a proliferation-regulated vector plasmid by preparing a restriction enzyme-recognizing unit in a vector plasmid having a proliferation-regulating unit and having an E1A region, at least one protein-coding region in a E1B region or the entire E1B region, a poly(A) signal sequence, and a recombinase-recognizing sequence in that order from upstream, by deleting both an endogenous promoter in the E1A region and an endogenous promoter regulating expression of the protein-coding gene at least in one protein-coding region of the E1B region and inserting restriction enzyme-recognizing sequences respectively in these deficient sites;

introducing a promoter expressing specifically in a target organ in the restriction enzyme-recognizing unit; and

additionally, integrating the proliferation-regulated vector plasmid into a vector plasmid having an adenoviral genome prepared by deleting the E1 region.

19. (New) The method of preparing a proliferation-regulated recombinant adenoviral vector efficiently according to claim 18, wherein the E1A region lacks a Rb protein-binding sequence.

20. (New) The method of preparing a proliferation-regulated recombinant adenoviral vector efficiently according to claim 19, wherein the protein-coding region in the E1B region includes a 19KDa protein-coding region and/or a 55KDa protein-coding region.

21. (New) The method of preparing a proliferation-regulated recombinant adenoviral vector efficiently according to claim 18, wherein each of the restriction enzyme-recognizing sequences inserted to the sites lacking the endogenous promoter in the E1A region and the endogenous promoter regulating expression of the protein-coding gene at least in one protein-coding region of the E1B region has a blunt-end restriction enzyme site

22. (New) The method of preparing a proliferation-regulated recombinant adenoviral vector efficiently according to Claim 18, wherein the recombinase-recognizing sequence is LoxP, LoxH, or the mutant sequence thereof.

23. (New) A method of preparing a proliferation-regulated recombinant adenoviral vector having an integrated therapeutic gene efficiently, comprising the steps of: preparing a second therapeutic gene-expressing vector plasmid by allowing a recombinase to react with the proliferation-regulated vector plasmid according to claim 18 and a first therapeutic gene-expressing vector plasmid prepared by inserting a constitutive high-expression promoter or a therapeutic gene-expressing promoter and a therapeutic gene in that order from upstream into the restriction enzyme-recognizing sequence of the vector plasmid containing a therapeutic gene-expressing unit, which is prepared by inserting a recombinase-recognizing sequence and a restriction enzyme-recognizing sequence respectively in that order from upstream; and additionally, integrating the second therapeutic gene-expressing vector plasmid into a vector plasmid having an adenoviral genome prepared by deleting the E1 region.

24. (New) The method of preparing a proliferation-regulated recombinant adenoviral vector having an integrated therapeutic gene efficiently according to claim 23, wherein the E1A region lacks a Rb protein-binding sequence.

25. (New) The method of preparing a proliferation-regulated recombinant adenoviral vector having an integrated therapeutic gene efficiently according to claim 24, wherein the protein-coding region in the E1B region includes a 19KDa protein-coding region and/or a 55KDa protein-coding region.

26. (New) A method of preparing a proliferation-regulated recombinant adenoviral vector having an integrated therapeutic gene efficiently, comprising the steps of: allowing a recombinase to react with the proliferation-regulated adenoviral vector plasmid according to claim 18 and the first therapeutic gene-expressing vector plasmid prepared by inserting a constitutive high-expression promoter or a therapeutic gene-expressing promoter and a therapeutic gene in that order from upstream to the restriction enzyme-recognizing sequences of the vector plasmid having a therapeutic gene-expressing unit prepared by inserting a recombinase-recognizing sequence and a restriction enzyme-recognizing sequence respectively in that order from upstream.

27. (New) The method of preparing a proliferation-regulated recombinant adenoviral vector having an integrated therapeutic gene efficiently according to claim 26, wherein the E1A region lacks a Rb protein-binding sequence.

28. (New) The method of preparing a proliferation-regulated recombinant adenoviral vector having an integrated therapeutic gene efficiently according to claim 27, wherein the protein-coding region in the E1B region includes a 19KDa protein-coding region and/or a 55KDa protein-coding region.

29. (New) The method of preparing a proliferation-regulated recombinant adenoviral vector having an integrated therapeutic gene efficiently, according to claim 26, further comprising the steps of: mixing the proliferation-regulated adenoviral vector plasmid and the first proliferation-regulated adenoviral vector plasmid, allowing a recombinase to react with the mixture, and then, transforming the vectors into each other.

30. (New) The method of preparing a proliferation-regulated recombinant adenoviral vector having an integrated therapeutic gene efficiently, according to claim 26, further comprising the steps of: cotransfecting the proliferation-regulated adenoviral vector plasmid and the first therapeutic gene-expressing vector plasmid to a recombinase-expressing cell.

31. (New) The method of preparing a proliferation-regulated recombinant adenoviral vector having an integrated therapeutic gene efficiently according to claim 30, wherein the recombinase-expressing cell is a cell prepared by making an adenoviral E1-region protein-expressing cell additionally express a recombinase.

32. (New) The method of preparing a proliferation-regulated recombinant adenoviral vector having an integrated therapeutic gene efficiently according to claim 23, wherein the recombinase-recognizing sequence in the vector plasmid containing a therapeutic gene-expressing unit is different from the recombinase-recognizing sequence in the vector plasmid having a proliferation-regulating unit.

33. (New) The method of preparing a proliferation-regulated recombinant adenoviral vector having an integrated therapeutic gene efficiently according to claim 32, wherein the E1A region lacks a Rb protein-binding sequence.

34. (New) The method of preparing a proliferation-regulated recombinant adenoviral vector having an integrated therapeutic gene efficiently according to claim 33, wherein the protein-coding region in the E1B region includes a 19KDa protein-coding region and/or a 55KDa protein-coding region.

35. (New) The method of preparing a proliferation-regulated recombinant adenoviral vector having an integrated therapeutic gene efficiently according to claim 23, wherein the drug tolerance gene in the vector plasmid having a proliferation-regulating unit and the drug tolerance gene of the vector plasmid having a therapeutic gene-expressing unit are different from each other, and Ori in the vector plasmid containing a therapeutic gene-expressing unit can duplicate pir genes such as R6K γ only in competent cell.

36. (New) The method of preparing a proliferation-regulated recombinant adenoviral vector having an integrated therapeutic gene efficiently according to claim 35, wherein the E1A region lacks a Rb protein-binding sequence.

37. (New) The method of preparing a proliferation-regulated recombinant adenoviral vector having an integrated therapeutic gene efficiently according to claim 36, wherein the protein-coding region in the E1B region includes a 19KDa protein-coding region and/or a 55KDa protein-coding region.

38. (New) A vector plasmid having a proliferation-regulating unit, for use in the method of preparing a proliferation-regulated recombinant adenoviral vector efficiently according to claim 18.

39. (New) A preparative kit, including a vector plasmid having a proliferation-regulating unit and a vector plasmid having an E1 region-deficient adenoviral genome, for use in the method of preparing a proliferation-regulated recombinant adenoviral vector efficiently according to claim 1.

40. (New) A preparative kit, comprising a vector plasmid having a proliferation-regulating unit, a vector plasmid having a therapeutic gene-expressing unit, and a vector plasmid having an adenoviral genome at least lacking the E1A region, for use in the method of preparing a proliferation-regulated recombinant adenoviral vector having an integrated therapeutic gene efficiently according to claim 23.

41. (New) A vector plasmid having a therapeutic gene-expressing unit, for use in the method of preparing a proliferation-regulated recombinant adenoviral vector having an integrated therapeutic gene efficiently according to claim 23.

42. (New) A treatment method for various diseases including malignant tumors, wherein the proliferation-regulated recombinant adenoviral vector prepared by the method according to claim 18 is utilized.

43. (New) A multifactorial proliferation-regulated recombinant adenoviral, containing arbitrary exogenous promoters replacing the endogenous promoters in its E1A and E1B regions as well as an arbitrary exogenous gene and a promoter expressing the same.

44. (New) The multifactorial proliferation-regulated recombinant adenoviral according to claim 43, wherein the exogenous promoters and/or the exogenous gene are specifically expressed in a particular organ.

45. (New) The multifactorial proliferation-regulated recombinant adenoviral according to claim 44, wherein the particular organ is a tumor organ and the E1A and/or E1B regions code for variant proteins respectively.

46. (New) The multifactorial proliferation-regulated recombinant adenoviral according to claim 45, wherein the E1A region codes for a variant protein lacking Rb protein.

47. (New) The multifactorial proliferation-regulated recombinant adenoviral according to claim 45, wherein the E1B region codes for a 19KDa variant protein.

48. (New) A preparative kit, comprising a vector plasmid having a proliferation-regulating unit, a vector plasmid having a therapeutic gene-expressing unit, and a vector plasmid having an adenoviral genome at least lacking the E1A region, for use in the method of preparing a proliferation-regulated recombinant adenoviral vector having an integrated therapeutic gene efficiently according to claim 26.

49. (New) A vector plasmid having a therapeutic gene-expressing unit, for use in the method of preparing a proliferation-regulated recombinant adenoviral vector having an integrated therapeutic gene efficiently according to claim 26.

50. (New) A treatment method for various diseases including malignant tumors, wherein the proliferation-regulated recombinant adenoviral vector prepared by the method according to claim 23 is utilized.

51. (New) A treatment method for various diseases including malignant tumors, wherein the proliferation-regulated recombinant adenoviral vector prepared by the method according to claim 26 is utilized.